

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER NO. 80-14

NPDES NO. CA0037958

WASTE DISCHARGE REQUIREMENTS FOR:

NOVATO SANITARY DISTRICT  
NOVATO, IGNACIO AND BAHIA PLANTS  
MARIN COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter Board), finds that:

1. Novato Sanitary District (hereinafter discharger), by application dated December 14, 1979, has applied for waste discharge requirements and a permit to discharge wastes under the National Pollutant Discharge Elimination System.
2. The discharger presently discharges municipal wastewater from the Novato and Ignacio sewage treatment plants into San Pablo Bay, a water of the United States, at 122° 29', 00" latitude and 38° 04', 00" longitude.

The Bahia sewage treatment plant discharges municipal wastewater into the Petaluma River, a water of the United States, at 122° 31', 00" latitude, and 38° 07', 30" longitude.

3. The discharger describes the existing discharges as follows:

Novato Plant

Average flow:	2.9 million gallons per day (mgd)
BOD:	15 milligrams per liter (mg/l)
Suspended Solids:	20 mg/l

Ignacio Plant

Average flow:	1.2 mgd
BOD:	16 mg/l
Suspended Solids:	22 mg/l

Bahia Plant

Average flow:	0.07 mgd
BOD:	7 mg/l
Suspended Solids:	11 mg/l

4. A Water Quality Control Plan for the San Francisco Bay Basin was adopted by the Board in April 1975. The Basin Plan contains water quality objectives for San Pablo Bay.

5. The beneficial uses of the San Pablo Bay are:

- a. Water Contact Recreation
- b. Non-Contact Water Recreation
- c. Commercial and Sport Fishing
- d. Wildlife Habitat
- e. Preservation of Habitat for Rare and Endangered Species
- f. Marine Habitat
- g. Fish Migration
- h. Fish Spawning
- i. Shellfish Harvesting
- j. Navigation

6. The Basin Plan prohibits the discharge of wastewater which has characteristics of concern to beneficial uses:

- a. At any point at which the wastewater does not receive a minimum initial dilution of at least 10:1; and
- b. Into any nontidal water or dead-end slough or similar confined water areas or their immediate tributaries.

Exceptions can be considered where a discharge is approved as part of a reclamation project.

7. The waste discharges are covered by Order Nos. 74-155, 76-48, 77-87 and 78-105 (Novato and Ignacio); 74-136, 76-49, 77-110, and 78-106 (Bahia). The Orders were adopted on December 6, 1974, May 4, 1976, July 19, 1977, December 19, 1978, November 1, 1974, May 4, 1976, September 20, 1977, and December 19, 1978, respectively.

8. The discharger proposes the following:

- a. The Novato and Ignacio treatment plants will be upgraded. The dry weather flows of the design year will be 4.53 mgd (Novato) and 2.02 mgd (Ignacio). However, the facilities will be designed to produce an effluent with an average of 15 mg/l BOD and 10 mg/l suspended solids for wet weather flows of 9.06 mgd and 4.04 mgd at the two plants. At higher flows, the effluent may have an average of up to 30 mg/l for BOD and suspended solids.
- b. The Bahia treatment plant will be abandoned and the raw sewage pumped to the Novato plant for treatment.
- c. Waste will be discharged to San Pablo Bay only during the wet weather season from September 1 through May 31. Effluent from the wildlife pond and water from Novato Creek may also be discharged through the same outfall during this period.
- d. During the dry weather season, all wastewater will be reclaimed.

9. The Board finds that San Pablo Bay, at the point of discharge, is a confined water area and a 10:1 initial dilution of the wastewater is not provided. However, the discharge, under the requirements of this order, complies with the qualification in Finding 6 for considering an exception to the prohibitions against discharge to a confined water area and discharge without 10:1 initial dilution, and the Board allows the discharge.

10. The Board will adopt waste discharge requirements covering the dry weather reclamation in a separate order.
11. Novato Sanitary District, as lead agency for the Eastern Marin and Southern Sonoma Wastewater Agencies requested an NPDES Permit time extension for construction of required facilities. This request was pursuant to Section 301(i) (1) of the Federal Water Pollution Control Act (FWPCA), as amended. The Board finds the request warranted and grants the time extension for compliance with Section 301(b) pursuant to Section 301(i) of the Act.
12. Novato Sanitary District as lead agency for the Eastern Marin and Southern Sonoma Wastewater Agencies certified a final Environmental Impact Report (EIR) on September 17, 1979 for their wastewater management projects in accordance with the California Environmental Quality Act (Public Resources Code, Section 2100 et seq.). The members of this Regional Board have received and reviewed a summary of these documents.
13. The EIR specifies that this project could have the following adverse impacts on the environment:

Possible odors from the wastewater treatment plants may affect nearby residents.
14. Compliance with Standard Provision A.1. of this Order will mitigate adverse impacts of Finding 13. To maintain compliance, the discharger will construct improvements for covering, venting and scrubbing exhaust gases on the following units:
  - Novato Treatment Plant - Headworks, primary clarifier, aeration tanks, fixed-film reactor, final clarifier, sludge thickener and dewatering facilities, and digester off-gas equipment.
  - Ignacio Treatment Plant - Primary clarifiers and primary biofilter.
  - Bahia Pump Station - Pumping station wet well. In addition, facilities to inject odor control chemicals in force main and control odors from air release valves in pipeline will be included.
15. The discharger and interested agencies and persons have been notified of the Board's intent to revise requirements for the existing discharge and have been provided with the opportunity for a public hearing and the opportunity to submit their written views and recommendations.
16. Effluent limitations and toxic and pretreatment effluent standards, established pursuant to Sections 208(b), 301, 304 and 307 of the Federal Water Pollution Control Act and amendments thereto are applicable to the discharge.
17. The Board in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provision of the Federal Water Pollution Control Act, as amended, and regulations and guidelines adopted thereunder, that the discharger shall comply with the following:

A. Prohibitions

1. The discharge of wastewater to waters of the State from June 1 through August 31 is prohibited (Executive Officer may grant requested date extension when yearly rainfall is abnormally high).
2. There shall be no bypass or overflow of untreated wastewater to waters of the State, either at the treatment plants or from the collection systems.
3. The average dry weather flow shall not exceed 4.53 mgd for the Novato Plant, and 2.02 mgd for the Ignacio plant. Averages shall be determined over three consecutive dry weather months each year.
4. The discharger proposes to phase out the Bahia treatment plant and eliminate its discharge to the Petaluma River by pumping the waste now treated by this plant to the Novato Plant. This shall be accomplished no later than July 1, 1983.

B. Final Effluent Limitations

1. The waste as discharged to waters of the State shall meet the following limitations:

<u>Constituents</u>	<u>Units</u>	<u>Maximum Daily</u>	<u>30-day Average</u>	<u>Annual (1) Average</u>
a. BOD	mg/l	30	15	
	lbs/day	3278	1639	
	kg/day	1487	743	
b. Suspended Solids	mg/l	20	10	
	lbs/day	2186	1093	
	kg/day	992	496	
c. Grease & Oil	mg/l	15	5	
	lbs/day	1639	546	
	kg/day	743	248	
d. Total Ammonia <sup>(2)</sup> as N	mg/l		6.0	4.0
	lbs/day		831	415
	kg/day		377	188
e. Settleable Solids (2)	ml/l-hr		0.1	

(1) Annual average shall be calculated as the average of 30-day averages for the months during which discharge is made to waters of State.

(2) For effluent diverted to the wildlife pond, compliance may be demonstrated for flows either entering or leaving the ponds.

f. Total Coliform:

At some point in the treatment process the waste shall not exceed a median most probable number (MPN) of coliform organisms of 2.2 per 100 milliliters as determined from the results of the previous consecutive 7 days for which analyses have been completed. Any single sample shall not exceed 1100 MPN/100 ml when verified by a repeat sample taken within 48 hours.

g. Chlorine residual shall have an instantaneous maximum of 0.0 mg/l. This limitation shall apply prior to discharge of waste to the wildlife pond.

h. The pH shall not exceed 8.5 nor be less than 6.5.

i. TOXICITY:

The survival of test organisms acceptable to this Board in 96-hour bioassays of the effluent shall achieve a median of 90% survival for three consecutive samples and a 90 percentile value of not less than 70% survival for 10 consecutive samples.

j. The arithmetic mean of the biochemical oxygen demand (5 day, 20°C) and suspended solids values, by weight, for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period (85 percent removal).

2. During wet weather for days when flows exceed twice the current dry weather average flows of the Novato or Ignacio plants, the Effluent Limitation B.1. for that plant's flow will be revised as follows:

<u>Constituents</u>	<u>Units</u>	<u>30-day Average</u>	<u>Maximum Daily</u>
a. BOD	mg/l	30	60
	lbs/day	4153	17063
	kg/day	1884	7740
b. Suspended Solids	mg/l	30	60
	lbs/day	4153	17063
	kg/day	1884	7740
c. Grease & Oil	mg/l	10	20
	lbs/day	1384	5688
	kg/day	628	2580

d. Total Coliform:

At some point in the treatment process, the total coliform bacteria for a median of 5 consecutive samples of waste shall not exceed 240 MPN/100 ml. Any single sample shall not exceed 10,000 MPN/100 ml when verified by a repeat sample taken within 48 hours.

The 30-day average limits for BOD, Suspended Solids and Grease and Oil shall be calculated as a weighted average of the 30-day limitations applicable to each day's flow in any given month as contained in B.1. and B.2. of this Order.

3. In any representative set of samples, the waste as discharged shall meet the following limit of quality: (a)

<u>Constituents</u>	<u>Unit of Measurement</u>	<u>50% of time</u>	<u>10% of time</u>
Arsenic	mg/l (kg/day)	0.01 (0.25)	0.02 (0.50)
Cadmium	mg/l (kg/day)	0.02 (0.50)	0.03 (0.74)
Total Chromium	mg/l (kg/day)	0.005 (0.12)	0.01 (0.25)
Copper	mg/l (kg/day)	0.2 (4.96)	0.3 (7.43)
Lead	mg/l (kg/day)	0.1 (2.48)	0.2 (4.96)
Mercury	mg/l (kg/day)	0.001 (0.025)	0.002 (0.050)
Nickel	mg/l (kg/day)	0.1 (2.48)	0.2 (4.96)
Silver	mg/l (kg/day)	0.02 (0.50)	0.04 (0.99)
Zinc	mg/l (kg/day)	0.3 (7.43)	0.5 (12.39)
Cyanide	mg/l (kg/day)	0.1 (2.48)	0.2 (4.96)
Phenolic Compounds	mg/l (kg/day)	0.5 (12.39)	1.0 (24.78)
Total Identifiable Chlorinated Hydrocarbons <sup>(b)</sup>	mg/l (kg/day)	0.002 (0.050)	0.004 (0.099)

(a) These limits are intended to be achieved through secondary treatment, source control and application of pretreatment standards.

(b) Total Identifiable Chlorinated Hydrocarbons shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, polychlorinated biphenyls, and other identifiable chlorinated hydrocarbons.

#### C. Interim Effluent Limitations

Prior to the compliance deadline for Effluent Limitations B.1. and B.2., as specified in Provision E.1., discharge of an effluent from the following treatment plants containing constituents in excess of the following limits is prohibited:

##### 1. Novato and Ignacio Plants

Effluent limitations shall be met in the combined effluent from both plants except for Settleable Matter and Coliform which shall be met in the effluent from each plant. Influent and effluent concentrations for the combined flow shall be obtained from the weighted average of the individual flows and concentrations.

<u>Constituent</u>	<u>Units</u>	<u>30-day Average</u>	<u>7-day Average</u>	<u>Maximum Daily</u>
a. BOD	mg/l	30	45	60
	lbs/day	3568	--	14660
	kg/day	1619	--	6650
b. Suspended Solids	mg/l	30	45	60
	lbs/day	3568	--	14660
	kg/day	1619	--	6650
c. Grease & Oil	mg/l	20	--	20
	lbs/day	4887	--	4887
	kg/day	2217	--	2217

d. Total Coliform:

At some point in the treatment process, the total coliform bacteria for a median of 5 consecutive samples of waste shall not exceed 240 MPN/100 ml. Any single sample shall not exceed 10,000 MPN/100 ml when verified by a repeat sample taken within 48 hours.

2. Bahia Plant

<u>Constituents</u>	<u>Units</u>	<u>30-day Average</u>	<u>7-day Average</u>	<u>Daily Maximum</u>
a. BOD	mg/l	30	45	60
	lbs/day	387	--	1592
	kg/day	176	--	722
b. Suspended Solids	mg/l	30	45	60
	lbs/day	387	--	1592
	kg/day	176	--	722
c. Grease & Oil	mg/l	10	--	20
	lbs/day	129	--	531
	kg/day	50	--	241

d. Total Coliform:

At some point in the treatment process, the total coliform bacteria for a median of seven consecutive samples of waste shall not exceed 2.2 MPN per 100 milliliters.

D. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

- a. Floating, suspended, or deposited macroscopic particulate matter or foam;
- b. Bottom deposits or aquatic growths;

- c. Significant alteration of temperature, turbidity, or apparent color beyond present natural background levels;
  - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
  - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:
- a. Dissolved oxygen      5.0 mg/l minimum. Annual median - 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
  - b. Dissolved sulfide      0.1 mg/l maximum.

E. Provisions

1. The discharger shall comply with the following time schedule to achieve compliance with the prohibitions A.1., A.3., and A.4; Effluent Limitations B.1.a-d, B.1.f., B.1.i, B.1.j., B.2 and B.3; and Receiving Water Limitations D.1.a., D.1.c., D.1.e, and D.2:

<u>Task</u>	<u>Completion Date</u>
a. Begin design	by March 1, 1980
b. Obtain construction funding	by July 1, 1980
c. Submit completed plans and specifications of all facilities necessary to achieve compliance to SWRCB for approval	by September 30, 1980
d. Advertise for construction bids	by February 1, 1981
e. Award construction contract	by June 1, 1981
f. Begin construction	by July 1, 1981
g. Complete construction	by May 1, 1983
h. Full compliance	by July 1, 1983

2. The waste shall meet all Effluent Limitations of this Order, except Effluent Limitations B.1.g. and B.1.i., without or prior to dilution with Novato Creek water. Only Novato Creek water of such quality as to enhance compliance with the requirements of this Order shall be added to the waste effluent.



3. Within 120 days of the date of adoption of this Order, the discharger shall submit a proposed compliance schedule for the development of a pretreatment program to this Board and EPA. When the schedule is approved by the Regional Board and EPA, the permit shall be modified to include the approved compliance schedule.
4. Waste discharged to the wildlife pond from September 1 through May 31 shall meet all requirements prescribed in this Order if there is to be any discharge from the wildlife pond to San Pablo Bay during this period. At other times, waste discharged to the wildlife pond may meet the reclamation requirements prescribed in a separate order. No discharge to the wildlife pond shall be made when flows to the treatment plants exceed twice the average dry weather flows.
5. Waste in storage ponds may be discharged through the outfall from September 1 through May 31 only when the discharger receives written approval of the Executive Officer after demonstrating to his satisfaction that such discharge:
  - is necessary for prudent operation and maintenance of the storage and irrigation facilities.
  - will be made in a way that has the least adverse effect on the environment; and
  - has received the treatment required in the reclamation requirements.
6. The discharger shall promote and encourage increased reclamation to reduce the amount of discharge to San Pablo Bay during the period from September 1 through May 31.
7. The requirements prescribed by this Order supersede the requirements prescribed by Order Nos. 74-136, 74-155, 76-48, 76-49, 77-87, 77-110, 78-105, and 78-106. Order Nos. 74-136, 74-155, 76-48, 76-49, 77-87, 77-110, 78-105 and 78-106 are hereby rescinded.
8. The discharger shall review and update annually its contingency plan as required by Regional Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
9. The discharger shall comply with any Self-Monitoring Program as ordered by the Executive Officer.
10. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977.
11. In reviewing compliance with the limits of Effluent Limitation B.1.j. of this Order, the Board will take special note of the difficulties encountered in achieving compliance during periods of high wet weather flow.

12. This Order expires on April 15, 1985. The discharger must file a Report of Waste Discharge in accordance with Title 23, Chapter 3, Subchapter 9, of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.
13. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act or amendments thereto, and shall become effective ten days after date of its adoption provided the Regional Administrator, Environmental Protection Agency has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on April 15, 1980.

FRED H. DIERKER  
Executive Officer

Attachment:

Standard Provisions, Reporting  
Requirements & Definitions (April 1977)